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WHICH BUILT THE ANCIENT WALLS IN THE TULEROSA VALLEY.

A Well-Formed, Long-Lived People Who Were Industrious and Fragal, but Probably Would Neither Fight Nor Pray-Beautiful Pottery-Hints as to Their Brees and Food-The Pictures on the Rocks-An Unfinished Tale of Real Life,

who for a long time, perhaps during several hundred years, inhabited a desert nook of the territory of New Mexico and then disappeared ously, leaving neither written history nor oral tradition among other peoples for the mation of those who were to come after them, but, instead thereof, ruins of well-built mes, household utensils of rare beauty and excellence, personal ornaments that excite the onder of the modern investigator, and other unmistakable signs which point to a curious, and, in some aspects, to a remarkable state of civilization. The story, so far as it can be read from such remains as are found, is that of a people who were tall, well formed, and had large brains. They were very likely almost a white-skinned race. They were at once farmers of rare skill and successful hunters. They were industrious and frugal. They gained wealth solely by manual labor. They probably had no god or religion, and were yet the prehistoric Quakers. The tourist who would like to make a study

TOLD OF AN EXTINCT RACE | the top of every mountain shows a precipice flat black crowns of these mountains show with singular effect above the gray of the grass-covered conglomerate and the green of tree tops on the side below. In every aspect the region is picturesque and attractive to the eye. As will be demonstrated further on the region has not materially changed since its ancient inhabitants vanished away. They cultivated the same narrow valley, bunted through similar groves in the canons, and clambered over the same lava-covered mountain tops in search of game.

the statement that the country has not materially changed since the ancient inhabitants disappeared seems very remarkable, for here within a range of ten miles are enough ruins of houses to hold 20,000 people, while the altitude is too great for the successful cultivation of corn (it is about 6,000 feet above the seal, the rainfall is so uncertain and limited in quantity that the region is practically a desert, and the supply of water for irrigation would not suffice for a section of land. Here was found, in fact, an open city. or. rather, a village many miles long, having thousands of inhabitants. Where did the people get the corn on which they subsisted, and remains of which can be found in the ruins? They must have been very skilful farmers.

After considering the country in which the

"See those stones over there-whole lot of

The tourist will look and will see it, but if

low in the valley—there is one below Harry Delgar's house—but they were built on ground that would not be reached by high water, and the one near Delgar's is on a low knob that was probably once considerably higher than it is now. In the alluvial soil of the valley the water has cut down knobs and filled in hollows that were prominent some hundreds of years ago when these houses were inhaulted.

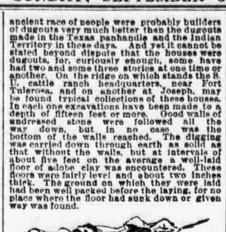
There is another interesting feature about these house sites. The sites, with one exception, have a sunny exposure. The first spots of ground to become lare after a snowfall are the spots covered with the debris of ancient ruins. It scarcely can be supposed that these elevated spots were chosen to enable the people to keep a lookout for an enemy. It was not, as will appear further on, a warlike people, and the sites, though high enough to be clear of water, were not, as a rule, high enough to give a view across the country for more than a mile or two. They chose sites that were warm and dry for their homes, and these two considerations seem to have alone provailed, for some houses were built more than a mile from, and many hundreds of feet alove, any possible supply of water that can now be found.

ble supply of water that can now be found

IN THE BUING.

them together? That's an old ruin. Up there

beyond is another. See it?"





In spite of the apparently solid condition of the earth beneath the various floors, however, skeletons of men, women, and children were found lying on the floors, together with a variety of jars, howis, and other crockery and household utensils. In all cases these skeletons were found placed on the floor in an orderly manner, with their heads to the east, and the crockery placed near at hand after a definite plan. These bodies were plainly buried as found, and the earth filled in on top of them. That is to say, the floor of the original dwelling was more than 15 feet below the present surface of the earth—below a fairly level surface, too, although the collection of walls, the ancient tenement house, so to speak, was so long that it extended 200 feet or more away to the brow of the ridge and on down the ridge side. Did the original builders here run a long tunnel into the ridge and divide it into rooms which they eventually filled by digging down (stoping, as a miner would say) the roof when a higher story was to be created; or did they dig holes like cellars more than 15 feet deep, wall them up and roof them over, and live there until a death in the family made it desirable, according to their notions, to make a grave out of the room?

Both the Delgars and the Grossetctes believe that the ancient ruins were neither tunnels nor dugouits. They think the houses were originally built on the surface as it was then found, or at most with half the wall below the surface. It was in this fashion that these walls had windows in them—even the lower walls, fifteen feet below the present surface, had windows would not be built in a cellar wall fifteen feet below the surface of the ground. Having built their one-story house, they lived there until it became necessary to turn it into a grave. Then they moved out, arranged the corpse and its wealth of pottery, beads, &c., and filled up the room with earth of some house to be deep the death of the mountain side—according to circumstances not now to be learned. Then the house w



FROM MRS. GROSSETETS'S COLLECTION.

By the time one has seen a dozen such patches the most prominent feature of the home site of the ancient builder is apparent. He always chose a ridge of some kind. On almost every promoutory, ridge, or knob of ground along the Tulerosa is an ancient ruin, and only on ridges or knobs have they been rounds of ar. There are, indeed, ruins down low in the valley—there is one below Harry Delgar's house—butthey were built on ground that would not be reached by high water, and the people themselves build up the earth without as well as within the houses they the solution of the solution of

the effect of the wind, as of the rain, is to rooke, cut down, these ridges. Did the people themselves build up the earth without as well as within the houses they transformed into graves? It may be so. The finding of buried skeletons outside the walls indicates that it is made ground there. They were industrious to a marvellous degree. The walls of the ruins at Joseph contain hundreds of cubic yards of stone work, and yet every bit of that stone was carried from a box cafion a half a mile away.

Some of the rooms in the old ruins were very large. One at Delgar's is fifty feet square. In the same ruin are others no more than 2x5 feet large. These look like hallways, but are, nevertheless, rooms, and were probably used for storing food, because several of them opened into a larger room in which three sets of stones for grinding grain were found arranged along a wall. The halls leading from one apartment to another were very narrow—never more than two feet wide.

So far as one can see there was no division of the larger structures into suites for the use of different families. Either some great man in the community occupied the great house with his family and servants or also the people living there had no definite distribution of rooms among families. The distribution of rooms among families. The distribution of skeletons on the various floors, however would indicate that a number of families, having all things in common, occupied the larger houses. Skeletons of old and young, males and females are found in all parts of the buildings, and some outside, but close to the walls and on a level with the floors.

The house roofs were undoubtedly flat. The trunks were cut and laid across the tops of these walls to support the roof. At the S. U. ranch one can still see the remains of the old roof timbers. They are placed about as people would place them now, and they must have been covered with poles and proof. At the S. U. ranch one can still see the remains of the old roof timbers are found at the present hear of a do



ENTRANCE TO TULKBOSA VALLEY.

ENTRANCE TO TULKROSA VALLEY.

There is no indication of a wall built for defence about any of the structures, nor has any warlike weapon been found about the houses. They practised the arts of peace only. There is nothing that can be construed into indicating any thought of danger from an enemy, unless it he a curious structure on a mountain top near Delgar's. One mile due south of Delgar's house that is as said, built on the sits of a great ruin, is a conical mountain rising nearly 1,000 feet above the creek bed. It has the usual cap of lava, which forms a perpendicular precipice about fifteen feet high all around the top. The ascent to the foot of this precipice is on every side steep, but to mount the precipice itself is well nigh impossible without the aid of ladders, save at two points, one on the side toward the ancient ruin, and the other on the opposite side toward the stream. At these points heavy blocks of lava have been piled to form the rudest kind of stairways. The stairways were as bad when in use by the builders as now, for one sees a plenty of broken crockery beside them—crockery that was broken because it was dropped when its bearers stumbled or slipped over those lava rocks.

On clambering up one finds a flat top of an oval shape and about 60 feet wide by 300 long. It is rough and partly covered with grass and brush. Around the edge is a low wall, built of large blocks of lava, but there are, of course, openings in the wall are so large that four strong men could not lift one, and yet they were apparently carried up to the top from the base of the precipice; such blocks are four by five large on several faces.

Scattered along on the top of this mountains

A CARD.

We take pleasure in announcing to our friends and the public that our new and commodious building, No. 58 WEST 23D ST., extending through the block to 22d St., is now almost completed, and will be

OPENED FOR BUSINESS

Tuesday Morning, Sept. 5th,

At which time our services will be at the disposal of our friends. The new building will be entirely de-

Ladies' Outfitting

In the most complete sense of the word, the stock comprising (as it will) everything for Ladies' Wear, from Hats to Shoes, of the latest and best designs at reasonable prices.

THE FORMAL OPENING.

Which will be duly announced in the daily papers, will take place a few weeks later, when all the little odds and ends not yet finished have been smoothed over and completed as they should be.



58 West 23d St.

Six Doors East of Our Former Location.

at irregular intervals are ten little rings or circular walls made of lava blocks. The rings are from six to eighteen feet in diameter, and the walls that are still standing are from two to three feet high. Nothing but a lot of broken pottery and a few tiny arrow heads has been found in these rings. The surface is not smoothed within the rings to any noticeable extent. Such a place as this might have served for a place of retreat when fleeing from an enemy, but it was too small to hold more than a small fraction of the people who lived in that valley, and those who went there would have soon died of thirst in case the mountain was surrounded by the enemy. It might have served for a place of worship, but no trace of idol or altar or sacrificial fire has been found.

It is a curious fact that no idol or anything to indicate that these people had any religious notions has been found. Harry Delgar, it is true, has a flat stone 3% inches long by 1% wide by % of an inch thick on one end of which are three holes that somewhat suggest the eyes and mouth of a human face, but it is so very crude that few who have seen the beauty of the painting on the crockery will believe that this stone was meant for an idol.

In connection with this point it may be said that Mr. A. B. Chase of Socorro has a small rectangular plece of slate on which the semblance of a human face has been scratched, with a sort of border or frame around the face. Although they probably lived when the Aztecs ruled Mexico, they had none of the Aztec temples, nor have any remains been found to indicate that they had much, if any, traffic with that warlike nation.



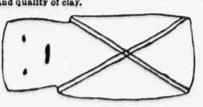
HARRY DELGAR'S.

That they were agriculturists, however, is beyond disputs. Mention has been made of the finding of three sets of grinding stones in one room at Delgar's ruins. These stones are not unlike those in use among the Mexicans of to-day. Imagine a flat rectangular sandstone 12x20 inches large and 0 thick, slightly concave on top, and the under stone is fully described. The grain was probably holled and then placed on this stone for grinding, as the Mexicans now do, for unboiled grain could not be rubbed down under the slender stone is stone 10 inches long, 4 inches wide, an inch thick, and of diamond-shaped cross section which the grinder dragged to and fro over it. The big stone was usually blocked up with adobea until high enough for a woman to work over it when on her knees. The three mentioned were side by side, two feet apart and two feet from the wall. The women knelt between them and the wall when at work. A bowl for the grain was beside each and one in front of each to catch the mush that was pushed from under the grinding stone.

Beans and pumpkin seeds have also been found in the ruins. One room was covered six inches deep with beans in pods. It is fair to suppose they had a variety of vegetables, but tobacco must have been cooked and turkey and squirrel bones that have been cooked and turkey egg shells are dug from the ruins. Deer bones were used for making both awis and needles. The latter averaged four inches long and a quarter inch thick at the eye—the ladies of this race were not noted for line needle work, apparently.

They work, in fact, dressed in very rude materials, skins of animals, and, perhaps, coarse blankets and mats of rushes. Only one small specimen of woollen blanket has been found, and that was badly decaved, but many corposes were laid out on mats made of tules.

In the centre of the larger rooms are usually found what some suppose to be the fireplaces—square beds of sand enclosed by four dressed blocks of stone say two feet long by four or five laches large inset under some property. The



SO-CALLED IDOL, REDUCED ONE-HALF. For cooking purposes a pot that burned to a reddish brown color was made by rolling out long ropes of the tempered clay and laying or coiling them up into the desired shap, pressing the soils together so that they would adhere to each other as the work provessed. Such pottery experts as Prof. Holmes of the Agricultural Department think that about all the ancient American pottery was made in this way, the wastels that were to be of smooth surface having the ridges taken out of them with a paddle or the fingers as the colls were laid up. But in the cooking pots the outer surface was left rough, while the inner was made very smooth. There was economy in this; it required less fire to make a pot with a rough exterior boil, because it had a much greater heating surface. However, some smooth bowls were put over the fire, too; but these were of a very hard texture, and were probably used for roasting or parching grain instead of boiling stews.

The cooking pots were naturally the coarses, but that they were of beautiful shape is seen at a glance at the one illustrated. Nor were they without ornament, for most of them had rows of indentations in various regular forms, that were usually made by the thumb of the potter, but nevertheless produced an effect pleasing to the eyo.



The bowls and pitchers were made sometimes in clay that burned to a red color, and sometimes in clay that burned to a red color, and sometimes in clay that burned gray. These were, after a fashion, glazed over. One sample of a red bowl has been found in which the ornamental figures were put on by etching through the glazing. The shapes of the bowls were, perhaps, taken from divided gourds. The dippers assuredly were fashioned after gourd dippers. Just where the potter got all his ideas for shaping the pitchers and jugs may not be known, but many of them bulge in the exact form of the human breast, and occasionally they are painted to increase the similarity. Of the gray ware many pieces are made in the form of a duck's body, although no duck's head has been found attached except in one case. Fossibly those duck-shaped jugs were made for lamps. Certainly lamps were needed in those houses, and the duck-shaped jug would serve the purpose. The mouth, rarely over an inch in diameter, was too small for a pitcher, but just right for a lamp. Still, but one of these pieces has been found showing marks of oil or fire.

In size all of the pottery from the ruins may be called small. No pitcher or canteen has been found that would hold two quarts, and rarely is a bowl found to held more than that quantity. Most of the jugs hold less than a quart and many of the cooking pots hold no more than a pint, while some that show plain marks of having been on the fire hold no more than a coffee cup.

One cannot think that this was a race of gluttons as were most of the indians found on the continent by early explorers.

But while the forms-of the various pieces of pottery are so pleasing to the eye as to warrantone in saying that the potters were real artists, it must be said that they were artists of the ideal school when they came to details. An animal with its hind feet on the body and its fore on the neck of a water bottle frequently served as a handle. The combination was not at all bad, but no one could say whether the animal r



COOKING POT.

In examining the paintings on the pottery the spectator is not unlikely to think that the artists got their ideas during thunder storms. At least nine-tenths of the pleees are covered with zigzag markings that suggest nothing so much as the trail of an electric spark on a black cloud. Possibly this people worshipped the god of the storm cloud, and so painted their crockery, as they probably wove colors into their baskets, in initation of the god's quickly vanishing footsteps! The old pottery sharps like Prof. Holmes would have us believe that about all ancient American pottery designing was developed from the designs in textile fabrics and basket work, wherein the patterns were necessarily worked out with raigzag edges, and that is very probably the fact, but this particular race must have done its develoment work itself, for its designs were never so elaborate as those of the Aztees, and never contained human or animal figures as did those of some of the mound builders. In any event, the work was done with a free hand and no two pleess were ever turned out alike. Black was the most common paint used, but red, brown, green, and blue are found.

Specimens of the red paint have been found, it is supposed. At least, a red substance like that which modern carpenters call kell is found in the graves. Pleese of unbroken pottery in any colors but black and white are very rare. When found the colors are usually bright and the whole plees is very attractive. It will seem not a little singular to the investigator that the pieces of gray pottery appear to be, with few exceptions, unused. Out of over 350 pieces which I saw in various collections made by people in the region, not over ten per cent, showed any marks of use. One common white and black mug, with a ropeasing the and the whole place is neased on the common white and black mug with a ropeasing than the common white and black mug with a ropeasing the and the whole place is the segion, not over ten per cent, showed any marks of use. One common white a COOKING POT.

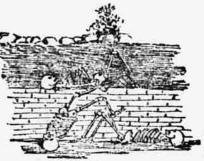


water notice.

with sand: they had become like rotten brick in the fire, and they showed mainly the impress of the article that had been fired within them, even to the ornamental figures which had probably been painted on the article. They crumbised to powder so readily that none was preserved. Apparently all articles of pottery were encased in matrices of rotten texture, and then buried in hot wood fires until sufficiently baked.

Other evidences of wealth were found in various kinds of jeweiry. Beads were very common, but are usually found in bowls beside the skeletons of women. They are marvelious little beads, apparently made of the finest clay, colored to bake red, black, or white, and dierced with holes so line that no needle is small enough to go through them. It is conjectured that they were made by rolling the clay around a human hair and then baked, perhaps in a matrix, as was the nottery.

With the beads are found other ornaments, such as hils of the pearl ovstershell, which probably were brought from the Gulf of California, and curious little bone imitations of frogs, lizards, &c. There were bits of bone and ivory in the shape of a figure 8, and others in the shape of a slender arc of a circle, say an inch or more long. Then there were bracelets cut from large elam shells brought from the sea shore, and other clam shells cut into rude imitations of a frog. One of these was found with a couple of tiny tits of turquoise glued where eyes should be, but the glue falled when exposed to the sun and the eyes dropped off. Many bits of 'urquoise in the shape of a key-stone are found, some an inch across.



and, at short range, turkeys. The largest ones would have served for deer or for men, but the larger ones are so rarely found that one must conclude that venison was obtained by domesticating the deer. The abundance of turkey egg shells indicates that turkeys were also domesticated. Certainly the utter absence of spearheads and large arrowheads is proof of the peaceful disposition of the race.

It is a singular fact that but three pieces of wrought metal have been found. Two were well-tempered copper punches, say three inches long and having eighth-inch points. The third was a copper bell of the shape of an old-fashloned sleigh bell. This bell undoubtedly came from the 1sthmus of Panama, where many such bells have been found in ancient graves. It was a long way from home, but it had been carried north by trade between ancient tribes. The work of the mechanics of this ancient people was done with tools of bene and stone. Even the big pine logs used for roof timbers were hacked down with stone axes.

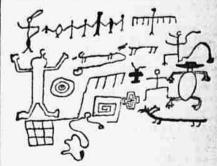


Of the physical characteristics of the people some idea can be had by a consideration of the skeletons found. An average male skull measured 20 inches in circumference and the inches in diameter, measured fore and att through the forehead on a level with the tops of the ears. The upper portion of the left parietal bone was three-eighths of an inch thick. A skull that was cut through in the occipital part horizontally showed a thickness of half an inch. I heard of a skull three-quarters of an inch thick, but I did not see it, and doubt the story. But they were a thick-skulled race. All skulls show flat occipital bones, probably because the babies were lashed with their backs on boards ipuncheons split from logs) and stood up against the wall while their mothers attended to the housework.

Judging by the bones of the limbs, the people were as large as the run of Americans and no larger, but the cowwoys of the region will tell the tenderfoot of skeleions eleven feet long being found. There is a little reason to suppose that they were a light-skinned people. At least one red-haired skull and one with still lighter hair were found. Hair has been but varely found, not over a half dozen times in all. In three cases it was black. Mrs. Delgar found a woman's braided hair. The hair has all erumbled on exposure.

While it is apparent from the benest that they were, as a race, well-developed and finely formed people, there were cripples and monstrosities among them. For instance, the skeleton of a child having a head that indicated an age of 12 years or more had the body of an infant in arms. If is fair to assume from this that they were not of Spartan minds—they did not destroy their ill-formed young. So, too, one can infer that they were kind to the aged. There are skeletons of very old poople. Some skulls show teeth which have been worn away by long use. An exam ina ien of these teeth the race was a very long lived one—that many lived more than one hundred years. They certainly had good digestions, for the teeth rarely

pool of water so often by a right-handed person that the paint was wern from the first of the que entirely, the gister as consend even, the mug wall was partly worn away, another cup that would have served better as a lamp, for it was in the share of a shall six pehes long, was in but little better condition. Togethet that the pottery is neatly all unused, together that the pottery is neatly all unused, together that the pottery is neatly all unused, and there were buried by some book and dear that these pots, for, were the visible ectleness of the worth of the deceased. That they were highly reized is shown by repairs made in some present which of the deceased. That they were highly reized is shown by repairs made in gone present which of the deceased. That they were highly reized is shown by repairs made in gone point that amy do grade in gone the case of the worth of the deceased. That they were highly reized is shown by repairs made in gone the case of the worth of the part of the control of the cilf inward the neat, he made to come the deceased of the case of the worth of the case of the worth of the case of the worth of the worth of the case of the worth of the case of the case of the worth of the case of the worth of the case of the worth of the case of the case of the case of the worth of the case of the case



SOME OF THE PRINCIPAL FIGURES ON THE ROCKS

shape of a slender are of a circle, sar an Inch or more long. Then there were bracelets ent from large clam shells brought from the season above, and other clam shells use into rude imfactions of a frog. One of those was found where eyes should be but the gluefalled when exposed to the sun and the eyes dropped off. Many bits of lurquoise in the shape of a keystone are found, some an inch across.

Some of the principal from the season of the sun and the eyes dropped off. Many bits of lurquoise in the shape of a keystone are found, some an inch across.

In other stone walls were shullt above the corpse, and any event the bottom for the stories in the first blace, and the new floor was laid as soon as the dirt settled new floor was laid as soon as the dirt settled new floor pounds as only to dig up a collection of pots while he went hunting for ducks and tarkers. Of consume of the people. At first thought one would say they were attempted and the season of the people. At first thought one would say they were attempted and the season of the season of the people. At first thought one would say they were attempted and the season of the people. At first thought one would say they were attempted and the season of the people. At first thought one would say they were attempted and the season of the people. At first thought one would say they were an total control of the season of the people. At all the deep the medicine men only.

As already intimated, this people had no arms fit for killing men. Hundreds of arrow theads are found, but farely is one found more than an inch long. The largest one beight of the medicine men only.

As already intimated, this people had no arms fit for killing fine people had no arms fit for killing fine men and the season of the stulls should be done to dispit a man one of people and no arms fit for killing fine season of the season of the stulls should be done of the season of the season of the stulls and the season of the season of the stulls and the season of the season of the stulls and



But above the level of the top floor a different state of affairs prevalls. There are few orderly burials here but many more skeletons are found in positions showing that there was no regular funeral. In the regular graves the limbs were drawn together and the policy were placed teside the head, and not frequently one pot was placed in the palls, each hand. Where more than one personal buried in a room (thirty were found in proom) the bodies were placed side by six heads to the east. Above the top floors, however, the bodies, as a rule, lie sprawling about in all shapes and directions. Some seem to have been thrown in a heap against the wall as if water had flooded the place and washed them there.

In these localities the pottery is found in all sorts of positions, and is for the most part broken. Curiously enough, too, many of those upper rooms seem to have been burned out the roof beams have been burned off, for instance. In one room an old man leaned against the wall with a pipe (the only one follow) has a seem to have been burned off, for instance, in one room an old man leaned against the wall whill at a word was leaning against the wall, whill at a sprawled out on the floor. Inan interior roam a grinding stone was found on one side of a room. Behind it a woman had kelt at her work, while in front was the big howl to receive the crushed grain. The woman had placed her left hand on the corner of the big stone and had put her right into the corn in a bowl beside her when death came, and so she was found, every bone perfect. In what form did it come to the rost who lie scattered about in disorder, but without any mark of violence? How were those top stories illed with earth after the neople were dead?

Some good posite think the wash of the flood of Noal's day. They faink the wash of the flood in region and the propose think the common prairie fire may have destroyed the interior of the lousee, and that the loudburst of hir region may have oldered by their own habits in combination, perhaps, with an unusual s

JOHN R. SPRANG.

The state of the s at it there are AT THE S. U. BANCH.

nogsbacks of the conglomerate rock.

The Tulerosa runs nearly to the southwest.

erly bank for a good many miles below the source is the steeper, that the valley lies on the northerly side, where, too, about all the promontories mentioned lie. Cottonwoods and willows grow along the creek, while the mountain sides and even some of the mountain tops are covered with a scattered growth of long-leaved and nut pine and a couple of varieties of cedar. It will be further noticed that the mountain sides slope up at various angles till the cap or crown of lava is reached. This cap invariably presents a perpendicular face—

This is a part of the story of a race of people

As one studies the remains of this people.

people lived one naturally examines the sites chosen for their houses. As he travels down the valley for the first time these sights will be pointed out by the stage driver.

MRS. GROSSETETE'S AT FORT TULEROSA. IN THE TULEROSA VALLEY.

of the ruins left by this ancient people should go to Socorro on the Santa Fé Railroad in New Mexico, and there take a train on a little branch road that runs thirty-two miles west to mining camp called Magdalena. Magdalena is a sure-enough frontier railroad station, the supply depot for the cowmen and others who live scattered about over the desert wherever a spring may be found clear away to the upper waters of the Gila River. A semi-weekly mail service is maintained from Magdalena west across this region and the tourist can take the stage-a buckboard with one seat-or he can hire a rig at the livery stable. In either event the destination he will sack is in the Tulerosa Valley. on the west side of the continental divide and nore than 100 miles away across the San Augustin plains. It is a journey of two and a half When in the valley the tourist can stop with Harry Delgar, whose 'Jobe house is known a the Post Office Department at Washington as the Post Office of Joseph, or he can stop with Mrs. Grossetete, a widow with a grownup family, living in a 'dobe house at a point known to the War Department as Fort Tulerosa. Both families are enthusiastic local archeologists, and have been digging for so many years about the old ruins that their neighbors (the people who



Moreover these homes are located right among the ruins, are built in part of materials formerly used by the prehistoric people, while the door yards are littered with bits of ancient broken crockery and the rooms of the houses are ornamented with curious and rare things ancient graves.

Perhaps the first thing to do in gathering the story of this ancient race would be to consider the locality in which they lived. It is certainly a most interesting locality to con-sider a valley walled in by flat-topped, lavacapped mountains. Apparently where one now finds the valley of Tulerosa Creek was once a great mesa or steppe, a fairly level plain over 700 feet higher above the sea than the present bed of the creek. This plain was probably once the bed of a lake with volcanic mountains around it, for it was composed of a mixture of water-worn pubbles. sand, and broken lava, all demented together into what mining men would call a light-col-ored conglomerate rock. By some means the When one comes to examine the houses the mystery surrounding this exterminated people lecomes deeper and the interest more intense. That they should have chosen a desert country for their home is not easily explained. It will not do to say they, being peaceable, went there to escape the warlike tribes in fertile, well-watered regions, for the Apaches, who were unequalled in ferceity and warlike characteristics, afterward chose the very same region to live in. This strange people chose this country because they liked it though none can tell why they liked it. But to find a reason for the construction of their houses in such forms as are found is very much more difficult—perhaps impossible. As said, the surface indications of a ruin show at best but traces of fallen stone walls. As a rule, the traces are very indistinct. A little digging, however, along the wall lines will show in most cases well-built walls made of rude broken rock—usually lava—such as can be found on any of the mountain sides. Some walls have been laid up with adobe mud, but most of them were laid dry. Some, too, were plaatered. The most of the houses were small, contained less than five rooms, but there are some that show spaces of from a quarter to a half acre, full of adjoining rooms, while smaller rules cluster close about the larger, like negro huts about a Virginia great house. In the small houses and the houses situated alone the rooms are rectangular, with the outer walls from tweive to eighteen inches thick and the partition walls five inches thick and upward to ten or twelve.

Adjoining and forming a part of each of the small houses and the houses that faces the valley or the end of the ridge on which the structure stands, and on the side of the ring that faces the end of the ridge on which the structure stands, and on the side of the ring that faces the end of the ridge on which the structure stands, and on the side of the ring that faces the end of the ridge on which the structure stands and on the side of the ring that faces the en water was drained away, and then a volcano began working handy by in such fashion that the elevated plain was covered over with a bed of lava from ten to twenty feet deep, in some places still deeper. Now this plain had a slight incline, apparently, toward the Gulf of California, and was moreover eventually split up the length of it by the earthquakes of the Thereafter, having obtained a start



through the earthquakes, the elements did the rest of the work of cutting out the Tule-resa Valley and its branches by erosion. The rain and frost wore and split out a chanuel through the congiomerate, made a channel that was aiternately cut out and filled up until at last there remained a valley that from the head down to Joseph will average less than a mile wide, and even this is cut into and contracted by many rounded promontories or

The careful observer will see that the south-